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Chapter 1 Flight Operations Standards and Procedures

1.1 General. This chapter prescribes flight operations standards and procedures for all aviation activities within the Department of the Interior (DOI). This applies to DOI fleet aircraft, commercial aviation operations, and privately-owned aircraft on official business.

A. Applicability of Pilots Operating Handbook and FAA-Approved Flight Manuals. Information, procedures and limitations contained in Pilots Operating Handbook and FAA-approved Flight Manuals (and supplements) are applicable to all operations. Exact titles of these documents may vary based on manufacturer and date of publication. Title variations include owner's manual, aircraft flight manual, owners' handbook and aircraft information manual.

B. Applicability of Federal Aviation Regulations (FAR) to DOI Operations Involving Owned or Operated Aircraft. Title 14, Part 91 of the Code of Federal Regulations (CFR), including those portions that apply to civil aircraft, applies to DOI-owned or operated aircraft operations except as noted in the Departmental Manual. All other FARs are applicable as directed by Parts 350-354 of the Departmental Manual.

C. Vendor Operations Specifications. Notwithstanding paragraph (b) of 14 CFR 135.1, aircraft will be operated and maintained under provisions of 14 CFR 91, 121, 125, 127, 133, 135 or 137, as appropriate, including those portions applicable to civil aircraft, unless otherwise authorized by OAS.

D. Vendor Certification. Vendors providing commercial services with pilot shall be certificated under 14 CFR 121, 125, 127, 133, 135, or 137 as appropriate.

E. Flight Preparation. Each pilot-in-command shall, before beginning a flight, be familiar with all available information concerning that flight in accordance with 14 CFR 91. A visual pre-flight inspection shall be made by the pilot before the first flight of each day. For fleet aircraft, a post-flight inspection shall be made after the last flight of the day. Deficiencies which might affect the safety of flight shall be corrected prior to commencing flight. Prior to each flight, pilots shall use applicable cockpit check-lists.

F. Weight and Balance. Weight and balance information shall be kept in each aircraft flight manual or weight and balance book. This information shall include:

(1) Equipped weight of aircraft, as configured.

(2) Passenger configuration(s).

(3) Cargo weight and distribution limits.

(4) Center of gravity (CG) limits.

(5) Maximum takeoff and landing weights.

(6) Charts for computing weights and CG location.

G. Seat Belts and Shoulder Harness. Occupants shall wear seat belts, and installed shoulder harnesses during all phases of flight unless there is a valid operational or safety requirement which would cause a PIC to direct otherwise.

H. Emergencies. When an emergency is encountered, the pilot shall take appropriate action to assure safety of flight. These situations shall be reported by the pilot to the chief pilot or supervisor and documented on Form OAS-34 SAFECOM.

I. Operations in Restricted Category and Uncertificated Aircraft. Aircraft certificated in restricted category or uncertificated aircraft shall be limited to:

(1) Cargo

(2) External loads (passengers prohibited)

(3) DOI passenger and/or crewmember transportation in aircraft excessed/surplused by the military provided the aircraft are maintained in accordance with an applicable active military maintenance and inspection program or other equivalent program accepted by the OAS Director.

(4) DOI employees performing assigned flight crew or aircrew duties.

(5) Non-DOI passengers, crewmembers, and employees authorized by their employing agency to fly aboard restricted category and uncertificated aircraft.

J. Smoking Policy. Smoking is not permitted in fleet, contract, and BOA aircraft.

1.2 Crew Complement Requirements.

A. Composition of Flight Crew. Minimum crew assignment and scheduling for all aircraft shall be in accordance with 14 CFR 135, except as otherwise provided for in this chapter.

B. Personnel At Controls. Only those individuals authorized by the OAS Director may manipulate the flight controls. Authorization may be in the form of Pilot Qualification Cards or special letters of authorization signed by the OAS Director. This includes pre-employment flight evaluations. Exceptions are:

(1) Vendor second-in-command pilots need not be carded except where second-in-command experience is defined by the procurement document.

(2) 14 CFR 121 operators not under contract are exempt from specific pilot carding procedures.

(3) DOI employees shall only participate in pinch hitter courses that are approved by OAS Director.

1.3 Flight Limitations.

A. Airplane External Load Operations. External loads shall only be transported in accordance with the FAA approved flight manual or in accordance with 14 CFR Part 21.187 or 21.197(a).

B. Airplane, Single-Engine - DOI Owned or Operated.

(1) Single-engine night (as defined in 14 CFR) flying shall not be authorized in mountainous areas depicted in 14 CFR 95, Subpart B, or the Airman's Information Manual, Part 1, except as follows:

(a) On OAS-designated routes. OAS-designated routes are bureau-requested, mountainous-terrain and pilot-specific routes.

(b) Within a 20-nautical-mile radius of a lighted airport.

(2) All authorized single-engine night, IFR and over-the-top flying shall be in an airplane equipped for IFR flight. The pilot shall be instrument rated, and current at night in accordance with 14 CFR Part 61.57(d). Except for takeoff and landing, all night flights shall be conducted:

(a) At least 1,000 feet above the highest obstacle (2,000 feet in mountainous areas) within a horizontal distance of five miles from course intended to be flown, and

(b) With three miles visibility.

(3) IFR and "Over-The-Top" Operations.

(a) Single-engine IFR flights shall not be planned or conducted into existing or forecast enroute icing or other potentially hazardous weather conditions described in Airman's Information Manual (AIM) defined as SIGMET and AIRMET.

(b) Single-engine IFR flights shall not be permitted in FAA-designated mountainous areas as depicted in 14 CFR 95, Subpart B, and the Airman's Information Manual, Part 1. (~~Note~~: This does not preclude pilots from filing an IFR flight plan and flying under IFR control when weather conditions are VFR).

(c) Single-engine airplanes may be operated in IFR and/or "over-the -top" flight condition only in non-mountainous areas, provided:

(i) Weather conditions at departure are at least 500-foot ceiling and one mile visibility, or published approach minimums, whichever is greater;

(ii) Weather reports and forecasts indicate that the pilot can descend into VFR conditions (at least 1,000 feet and three miles) when outside Class D airspace, in case of an emergency at any enroute point while flying cross-country; or

(iii) Destination weather is at least 500 foot ceiling and one mile visibility, or published approach minimums, whichever is greater, existing at the time of departure and forecast for time of arrival plus one hour. Alternate weather minimums shall be in accordance with 14 CFR 91.

C. ~~Airplane, Single-Engine - Vendor Operated~~. Vendor single-engine aircraft operations shall not be conducted into instrument meteorological conditions (IMC) or night conditions as defined in 14 CFR with Government personnel on board.

D. ~~Airplane, Multiengine - DOI Owned or Operated~~.

(1) Night VFR. Airplanes shall be equipped for IFR flight. The pilot shall be instrument rated and current at night in accordance with 14 CFR Part 61.57(d). Except for takeoff and landing, all night flights shall be conducted:

(a) At least 1,000 feet above the highest obstacle (2,000 feet in mountainous areas) within a horizontal distance of five miles from course intended to be flown, and

(b) With three miles visibility.

(2) IFR.

(a) Departure Minimums. Weather shall be at or above the lowest appropriate published approach minimums for the departure airport, and for which type approach the aircraft is equipped. Departures may also be made when weather meets published takeoff minimums or at least 1/2-mile visibility (2,400 runway visual range (RVR)), whichever is greater. This requires a departure alternate airport that is available within one hour flight time from the departure airport. The aircraft shall be able to reach the departure alternate with one engine inoperative at the minimum enroute altitude (MEA).

(b) Non-Standard Departure Minimums. DOI pilots specifically approved on Form OAS-69 are authorized lower takeoff minimums, providing the following criteria are met:

(i) Visibility conditions are at least RVR 1,600 or 1/4-mile or published takeoff minimums, whichever is higher. If RVR visibility is given, it must be utilized.

(ii) For RVR 600 departures:

- The departure runway shall be equipped with center line lighting, runway center line markings and RVR readouts are available for touchdown, mid-field and rollout zones, departures may be made with RVR values of 600 feet or published takeoff minimums, whichever are higher.

- Departure alternate airport is available and specified within one hour flight time from the departure airport.

(iii) For all the above situations the departure alternate airport existing and forecast weather must indicate that, at the estimated time of arrival, the ceiling and visibility at that airport shall be at or above the following weather minimums:

- If an instrument approach procedure is published for that airport, the alternate airport weather minimums specified in that procedure apply. If none are so specified, then for a precision approach procedure, the ceiling must be 600 feet and visibility two statute miles. For a non-precision approach, the ceiling must be 800 feet and visibility two statute miles.

- If no instrument approach procedures are published, the ceiling and visibility minimums must allow descent, approach and landing from the MEA under VFR conditions.

(c) Destination and Alternate Minimums.

(i) IFR flights may depart with existing weather conditions at destination airport below approach minimums, but forecast to be at approach minimums or above upon arrival, plus one hour. An alternate destination must be specified which has existing, and forecast weather conditions of at least "alternate minimums," at ETA, plus one hour.

(ii) An alternate need not be specified for an IFR flight if the destination has a standard instrument approach procedure, and has forecast (for one hour before and until one hour after ETA) weather conditions of at least 1,500 feet above the lowest circling approach Minimum Descent Altitude (MDA). If no circling approach is authorized, the ceiling must be 1,500 feet above the lowest published minimum, or 2,000 feet above the airport elevation, whichever is higher. Visibility for that airport must be forecast to be at least three miles, or two miles more than the lowest published approach visibility minimums, whichever is greater.

(d) Approach Weather Minimums. An instrument approach in IMC shall not be initiated at the destination unless reported weather minimums are at or above minimums published for the approach to be initiated. If, after commencing the approach, weather minimums deteriorate below that required to initiate the approach, the approach may be continued to the missed approach point at the discretion of the pilot-in-command. Descent below published minimums is not authorized.

(e) Autopilot Requirements. If an aircraft is not equipped with an IFR approved and functioning autopilot, a copilot shall be required for all passenger flights where IFR conditions are anticipated. Exceptions to this rule, allowing single pilot IFR without an autopilot, are as follows:

(i) A take off from the departure airport in IFR conditions to a point no more than 15 minutes flying time at normal cruise speed from that airport.

(ii) Operate an aircraft in IFR conditions if unforecast weather conditions are encountered while enroute on a flight planned to be conducted under VFR; and

(iii) Make an IFR approach at the destination airport if unforecast weather conditions are encountered at the airport that do not allow an approach to be completed under VFR.

E. ~~Helicopter~~.

(1) ~~Night Flight Requirements~~. Single or multiengined helicopter flights may be conducted under VFR conditions at night, provided that:

(a) The aircraft is equipped for IFR and night flight in accordance with 14 CFR 91.

(b) The pilot is instrument-rated in any category and current at night in accordance with 14 CFR 61.

(c) All takeoffs and landings can be made in areas where the boundaries are clearly shown by lights, reflective material which can be illuminated by the helicopter's landing light, or other identifiable landing aids.

(d) Single-engine helicopter flights conducted at night are confined to areas where an emergency autorotation can be accomplished to lighted areas or to terrain known to the pilot to be free of wires or other hazards which may be indistinguishable at night. Cross-country flights may be allowed over preplanned routes where hazards are clearly marked on the hazard map and are familiar to the pilot. Pilots must maintain visual ground light reference. Night flights over large areas of water or forest where surface lights are not visible are prohibited.

(e) Flights involving Night Vision Goggles (NVG) comply with items (a) and (b). In addition, NVG operations shall comply with a standard operating procedures manual for goggle operations approved by OAS.

(2) ~~IFR~~. Flights into IMC shall be conducted:

(a) In a multi-engine helicopter certificated for IFR operations.

(b) When weather minimums meet or exceed those prescribed in 14 CFR 135 for helicopter IFR operations.

(c) Only with a crew complement which includes a SIC.

(3) ~~Wind Restrictions~~. Helicopter operations shall be shut down if the wind exceeds those limitations established in the Operator's Flight Manual or manufacturer's recommendations. If no wind limitation has been prescribed by the manufacturer, helicopter operations shall be terminated when wind speed exceeds the following conditions:

(a) Low level operations:

(i) Small helicopters - 30 knots, or a maximum gust spread of 15 knots.
(ii) Medium/large helicopters - 40 knots, or a maximum gust spread of 15 knots.

(b) Flights more than 500 feet from the surface - 50-knot winds.

(4) ~~Snow Operations~~. Flights in falling snow may be accomplished, provided:
(a) VFR conditions are maintained.

(b) Turbine helicopters are equipped with snow kits as prescribed by the approved flight manual.

(5) ~~External Load Operations~~.

(a) Personnel essential to the activity being conducted may be transported while carrying external loads, provided the helicopter is not certificated in the "Restricted" category.

(b) An empty retardant bucket may be carried from a jettisonable sling during the transporting of ground fire crews to a fire.

(6) ~~Toe-In, Single-Skid or Step-out Landings~~. This section establishes policy and operational guidelines for the use of helicopter toe-in, single-skid, and step-out landings. This policy applies to all vendor, DOI fleet, and cooperators.

(a) Due to the hazardous nature of these types of landings; toe-in, single-skid, and step-out landings are prohibited.

(b) Exceptions. If a bureau determines the need to perform this type of landing to accomplish a program, a request for an exception shall be submitted to the OAS Director. Requests for exception will be submitted from the bureau State, Regional or Area office directorate. This request will include a risk assessment and the concurrence of the bureau directorate accepting operational responsibility for this hazardous operation. Once the exception has been granted, the pilot will be approved by OAS for this type landing only for the specific project requested. Bureau personnel involved on the project will be trained by OAS in established procedures to minimize center of gravity and power change requirements with the approved pilot.

(7) Hover landings are not prohibited due to lower risk.

1.4 ~~Flight Plans and Flight Following~~. Flight plans and flight following are required for all flights except those conducted within a 25-mile radius of the base of operations which involve local flight training, flight evaluations and maintenance test flights. These exempt flights must be able to maintain continuous radio contact with the base of operations. All flight plans shall be specific as to routing, i.e., published airways or direct "a" to "b" to "c," etc. Flight plans will be filed prior to takeoff whenever possible. Any deviation from direct or airway routes shall indicate interim points, defined area reconnaissance, enroute delays expected, etc. Flight plans shall be filed in one of the following ways:

A. ~~IFR~~. IFR flight plans shall be filed with an appropriate FAA facility.

B. ~~VFR~~. VFR flight plans should be filed with the FAA. Bureau flight plans may be used in lieu of FAA flight plans, provided the bureau has a written and operational flight following program.

C. ~~Flight Following~~.

(1) When a flight plan has been filed with the FAA, flight following shall be provided by the FAA or a bureau flight following program, ~~or~~;

(2) Flight following shall be provided by the bureau for flight plans filed under the bureau's written flight following program. The bureau program shall consist of at least one of the following:

(a) Radio contact shall be made at predetermined intervals not to exceed 1 hour so that position reports or amendments can be communicated and recorded.

(b) An exception to reporting each hour will be allowed for operations in remote and mountainous areas where normal flight following is not available. Pilots will follow their flight plan as closely as possible and have their locations for operations reports relayed to a flight following facility whenever possible, but not less than once every 24 hours. Exercise of this exception requires aviation management approval at the regional/state/area level of the bureau concerned. Frequency of reporting will be specified in the exception authority document.

(c) Have an effective electronic flight following system in operation.

Note: Bureau personnel tasked with flight following responsibility must monitor the communications radio at all times during the flight and must have received training concerning actions to take in the event of an overdue aircraft, aircraft mishap, etc.

1.5 ~~Passenger Operations~~.

A. ~~Manifesting~~. The pilot-in-command shall ensure that a manifest of all crewmembers and passengers on board has been completed. A copy of this manifest shall remain at the point of initial departure. Manifest changes will be left at subsequent points of departure when practical. In those instances where multiple short flights will be made in a specified geographical area which involves frequent change of passengers, a single manifest of all passengers involved may be left with an appropriate person to preclude unreasonable administrative burden.

B. ~~Briefing~~. Before each takeoff, the pilot-in-command shall ensure that all passengers have been briefed in accordance with the briefing items contained in 14 CFR 135. In those instances where multiple short flights are made, the pilot's briefing does not need to be repeated unless new passengers come aboard. Additionally, the briefing should include location of the following items if installed on the aircraft:

(1) Emergency Locator Transmitter (ELT).

(2) Aviation life support equipment.

(3) First aid kit.

C. ~~Enplaning/Deplaning Passengers~~.

(1) On single-engine land planes, the engine will not be started until passengers are aboard and the doors are closed. At the completion of the flight, engine will be shut down, propeller stopped and switches off before cabin doors are opened for passenger off-loading.

(2) On single-engine floatplanes, if it is necessary for a passenger to assist the pilot in docking or beaching operations, the passenger will be briefed by the pilot on all safety precautions prior to each operation. At no time will a passenger or crewmember be allowed forward of the wing strut on a high wing aircraft, or forward of the wing on a low wing aircraft while the propeller is turning.

(3) On multiengined airplanes, passenger loading/offloading may be accomplished at enroute stops with engine(s) running on the side of the airplane opposite the cabin door when a qualified flight crewmember is at the controls during the loading/offloading process. No personnel will be allowed on the side of the airplane with the engine running without a passenger escort trained in the hazard of this activity. Passenger loading/offloading can be accomplished with engine(s) running on the side of the aircraft with the passenger doors when:

(i) A qualified flight crewmember will be at the controls of the aircraft, and

(ii) Propeller is located forward of the wing and main cabin entrance door is located behind the wing, and

(iii) Propeller capable of being fully feathered while the engine is running (turbine-powered aircraft), and

(iv) An air crewmember escort is used to prevent problems with passenger entrance/egress and to ensure clothing, hand-carried items, etc. are secure.

(4) Helicopter engines need not be shut down during passenger loading or unloading, providing the pilot briefs passengers on safety precautions. Passengers shall depart the helicopter toward the front within the pilot's view, avoiding the uphill side and rear of the helicopter. Passengers shall keep heads and equipment low to avoid the rotor system.

1.6 ~~Special Operations.~~

A. ~~Cold Weather.~~ Flight operations with single-engine aircraft shall not be conducted when the surface air temperature is -40°F. or colder.

B. ~~Aviation Transport of Hazardous Materials.~~ Detailed procedures are outlined in the ~~Interagency Aviation Transport of Hazardous Materials Handbook~~ issued as a supplement to this chapter.

C. ~~Temporary Flight Restrictions.~~ DOI personnel may request a temporary flight restriction under Federal Aviation Regulation (14 CFR 91.137) to protect persons or property on the surface or in the air from the hazards associated with an incident on the surface and to provide a safe environment for the operation of disaster relief aircraft. The procedures necessary to obtain a temporary flight restriction are contained in the ~~Interagency Airspace Coordination Guide~~.

D. Undercover Law Enforcement Operations in Non-OAS Approved Aircraft. DOI employees involved in undercover law enforcement operations are authorized to use unapproved aircraft and pilots during the covert phase of an operation providing:

(1) The activity is essential to the accomplishment of the mission, and

(2) Such use is consistent with the undercover operating policy and practices of the bureau concerned.

1.7 Special Use Activities. Special use activities are the utilization of airplanes and helicopters in support of programs which are not point-to-point flight activities and which require special considerations due to their functional use. The following activities are excepted from normal operating procedures. Refer to the "Revised Standards for Technical Oversight" document (OPM).

A. Operational Requirements.

(1) Aircraft and pilots shall be approved for each special use activity prior to use. Privately-owned aircraft used on official business for DOI shall not be approved for special use operations.

(2) Employees engaged in special use activities must meet the training requirements outlined in the Aviation User Training Program.

B. Personal Protective Equipment (PPE). Policy and detailed information are outlined in the Aviation Life Support Equipment (ALSE) Handbook issued as a supplement to this chapter.

1.8 Airports/Heliports.

A. Management. It is the bureau's responsibility to establish management guidelines so that aviation facilities are adequately planned, constructed, and managed.

B. Development.

(1) Airports. Construction, development, or closing of an airport or landing strip that is located on DOI property shall be accomplished within appropriate FAA guidelines (Advisory Circular Publications).

(2) Airtanker Base Facilities. Detailed procedures for the construction and operation of airtanker base facilities are outlined in ~~The Airtanker Base Planning Guide~~ published by the National Wildfire Coordinating Group.

(3) Heliports. Detailed procedures for the evaluation, design, construction, and closures of heliports are outlined in the ~~Heliport Installation Handbook~~ issued as a supplement to this chapter.

(4) Helispots. Detailed procedures for the location, construction and operational safety considerations of helispots are outlined in the ~~Interagency Helicopter Operations Guide~~.

1.9 ~~Logging of Aircraft Time~~.

A. ~~DOI Aircraft~~. A Hobbs meter shall be used, if installed; otherwise, a recording tachometer shall be used. If neither are installed, clock/watch time shall be used to record time from takeoff roll until the aircraft returns to the blocks.

B. ~~Vendor Aircraft~~.

(1) Airplanes. Flight time shall be measured from the time the aircraft commences its takeoff roll until it returns to the blocks and shall be computed in hours and tenths/hundredths. A conversion table is contained within the OAS-23 booklet.

(2) Helicopters. Flight time shall be measured from lift-off to touch-down and recorded in hours and tenths. A flight recording meter reading in hours and tenths and activated by an engine or transmission oil pressure switch wired in series with a collective switch, or equivalent system, shall be required for recording flight time in helicopters.

1.10 ~~Relocation of Confiscated Aircraft~~. Non-approved confiscated aircraft may be relocated to secure areas provided:

A. An inspection for structural and operational airworthiness is completed by an OAS approved maintenance inspector.

B. If the aircraft's airworthiness cannot be determined as required by Federal Aviation Regulations, OAS will remove the airworthiness certificate and acquire a ferry permit from the FAA for a one-time flight to the impound area.

C. Pilots meet DOI requirements for make and model experience and are not operating under a flight time waiver.

D. Confiscated aircraft relocation costs accumulated by OAS are reimbursable by the requesting bureau through agreement.

1.11 ~~Mechanic Duty Limitations~~. Mechanics shall not exceed the following duty time limitations:

A. Within any 24-hour period, mechanics shall have a minimum of eight consecutive hours off duty immediately prior to the beginning of any duty day. Travel, not local in nature, may be counted as duty time.

B. Mechanics will have two full days off during any 14 day period. Off duty days need not be consecutive.

C. Duty time includes availability and work or alert status at any job site.

D. The Government may further restrict daily duty hours and may remove mechanics for fatigue or other causes before reaching their daily duty limitations.

E. The mechanic will be responsible for keeping the Government apprised of duty limitation status.

F. Relief or substitute mechanics reporting for duty may be required to furnish a record of all duty time during the previous 14 days.

G. Refer to 351 DM 3.5A for duty limitations pertaining to pilots engaged in mechanic duties.